

Name: _____ Hour: _____

Genetics Study Guide

1. Write an example to show you understand each of the following:

- Homozygous:
- Heterozygous:
- Recessive:
- Dominant:
- Genotype:
- Phenotype:

2. How are the following words connected/related?

(Describe by drawing a picture/concept map or by writing a paragraph.

Circle or underline each word to be sure you include them all.)

- Cell
- Gene
- Trait
- Allele
- Chromosome
- DNA

3. Describe the 2 main differences between sexual and asexual reproduction.

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4. Give an example of artificial selection (selective breeding) and explain how it was done and/or why it is selective breeding.

Example:

Explanation:

5. Give an example of genetic engineering and explain how it was done and/or why it is genetic engineering.

Example:

Explanation:

6. Give 2 examples of traits that are determined by genes.

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7. Give 2 examples of traits that are influenced by the environment.

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8. Create a Punnett Square that shows a homozygous dominant and homozygous recessive cross (use H and h).

What are the chances the offspring will have the following genotypes:

HH: _____ out of 4, or _____%

Hh: _____ out of 4, or _____%

hh: _____ out of 4, or _____%

9. Create a Punnett Square that shows a heterozygous and heterozygous cross (use H and h).

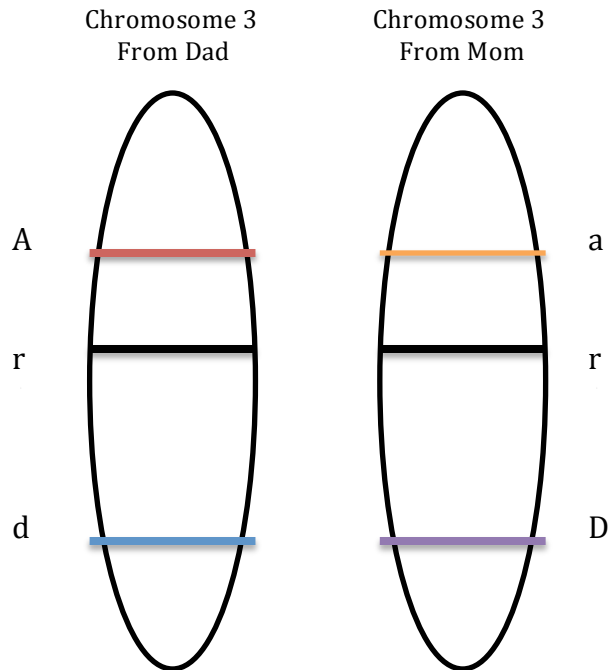
What are the chances the offspring will have the following phenotypes:

Dominant: _____ out of 4, or _____%

Recessive: _____ out of 4, or _____%

Bunny Genetics (challenge)

A bunny inherits the following chromosomes from his parents. The chromosomes have 3 genes that determine facial traits for the bunny.



	Gene	Trait
Whisker length	A	Long
	a	Short
Nose color	R	Pink
	r	Brown
Ear shape	D	Round
	d	Pointy

Complete the following table for this bunny.

	Genotype	Phenotype
Whisker length		
Nose color		
Ear shape		